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PFISTER CORN CO., EL PASO, ILL.

1957/58

YOUR GUIDE TO  
BETTER HYBRIDS



# See results of Lester Pfisters Corn Production Experiments *(For a more profitable agriculture)*

- 1 USE OF A GOOD HYBRID
- 2 CONTINUOUS CORN
- 3 LIBERAL USE OF URAN NITROGEN IN FALL
- 4 ECONOMICAL IRRIGATION
- 5 DEEP PLOWING-SUBSOIL FERTILIZATION IN FALL
- 6 EFFICIENT USE OF RAINFALL
- 7 HIGH ORGANIC MATTER CONTENT OF SOIL
- 8 SOIL IMPROVEMENT-DECOMPOSITION OF RESIDUE

Stop! Look! See for yourself. 9<sup>1/2</sup> year corn. Average yield 122 bu per A.



Walter and Jerry chat with their father, Lester Pfister, over some sample ears of 187 Hybrids during a Demonstration Day on Lester Pfister's farm at El Paso, September 20, 1956.

## **LESTER PFISTER**

### **THE MAN • THE PIONEER • THE CITIZEN**

El Paso, Illinois is the home of Mr. and Mrs. Lester Pfister, their three sons, Jerry, Walter and Danny, and their three daughters Josephine, Delores and Rosemary. For 41 years this quiet, gracious and persevering Burbank of the Midwest has been striving to improve the lot of his fellow man. Since the early '20s, he has been seeking a better corn and even though his efforts have been partially rewarded, he is continually making further progress for better agriculture.

Lester Pfister, the thinker and philosopher, has never followed the beaten path. He has made many changes and he believes that when one is through changing he is really through in life. Most of the changes and the improvements he has made to the benefit of himself and his fellowmen in the corn belt were born of necessity.

Citizens in the corn belt owe much to this 59-year old American, slight in build, bespectacled, kind and gracious—Lester Pfister. It was he who built the first detasseling machine to make the job of detasseling thousands of acres of corn easier and more efficient. During the lean years, 1925 to 1932, this young Giant of the corn fields was experimenting, testing, crossing, selecting, recording—making more than 100,000 careful pollinations. In 1932, his

first successful cross of inbreds was developed. One of these inbreds developed in the 187th row of his test plot was so outstanding that it has been made a part of each hybrid produced by Lester Pfister. Hence, the name "The 187 Hybrids." The glamour surrounding the inbred found in the 187th row is like that of WF 9, which was the inbred found in the 9th row on the Wilson Farm by Dr. G. N. Hoffer.

Quick to recognize the strong plants and possessing the uncanny ability of knowing which one of thousands to keep and which ones to discard, Lester Pfister has made a tremendous contribution to the economic welfare of men everywhere. With pollen in the palm of his hand, Lester Pfister created many new hybrids that helped raise the yields of corn from the miserably-low 40 bushels to 100 bushels per acre and more.

The "Jitterbug" corn grader developed by Lester Pfister has enabled farmers everywhere to buy uniform seed corn year after year. With the detasseling machine and the "Jitterbug" corn grader perfected, his attentions were turned to developing the four-row cornpicker and the four-row cornpicker-sheller.

Then came soil improvement. Lester Pfister like every other farmer has taxes to pay and payrolls to meet. He needed deeper acres. One day in the early '50s a 14,000-pound Towner plow came to the Pfister farm. With this 44-inch disc plow, four to six tons of cornstalks per acre, along with Arcadian Uran Nitrogen, phosphorus, potash and lime can be

turned under—22 inches deep. Nowhere else in the corn belt can you find better soil improvement with continuous corn than on the Lester Pfister farm. Huge tonnages of residues are plowed down along with Uran nitrogen and plant food minerals, to increase water holding capacity of the soil and to improve drainage and aeration. Surface and sub-irrigation have been perfected on the Lester Pfister farm. Keeping the soil loose, pliable and in good tilth has enabled this farm genius to make the most of the rain that falls. With Arcadian Uran Nitrogen feeding the beneficial soil bacteria and speeding the decomposition of plant residues, Lester Pfister has made more "legume like" material from corn-stalks than he could get from legumes themselves. This practical program has enabled Lester Pfister to grow corn continuously—with higher, more profitable yields—and at the same time constantly improve his soil. Who can say that the Pfister acres are not better today than they were 20 years ago?

This great American and custodian of his soil has progressed as a result of necessity and of his own thinking. Lester Pfister forces his program on no one. But he invites you to come and to probe in the root zone and see for yourself. His farm is the school house and the laboratory and the teacher is Lester Pfister.

Howard R. Lathrop  
*Agronomist, Nitrogen Division*  
*Allied Chemical and Dye Corporation*

## **MAKING A YIELD CHECK**

### **Find Ear Corn Yield**

*First:*

Husk and weigh the corn in the number of HILLS as shown on the table for check-rowed corn. If drilled, refer to drilled corn table, and husk and weigh the number of LINEAL FEET as shown. The result in pounds represents the EAR CORN YIELD per acre in bushels at 70 pounds per bushel. Next, correct for shelled corn yield.

### **Correct for Shelled Corn Yield**

*Second:*

Shell 20 pounds of the ear corn and multiply the shelled corn weight by 5. The result is the shelling percentage. 80% is the standard shelling percentage on the basis of 56 pounds of shelled corn from 70 pounds of ear corn. Multiply the ear corn yield by the percent above or below 80%. ADD this result to the ear corn yield if ABOVE 80% or SUBTRACT if BELOW 80%. The result is the SHELLED CORN YIELD. Next, correct for moisture.

### **TABLE FOR DRILLED CORN**

3 Ft.	3 Ft.-2 In.	3 Ft.-4 In.
207 Ft.	196 Ft.	186 Ft.
5 In.	5 In.	6 In.

(Measure and Husk the number of Lineal Feet as shown in above chart corresponding to the distance between rows.)

### **TABLE FOR CHECK-ROWED CORN**

	3 Ft.	3 Ft.
	2 In.	4 In.
3 Ft., 0 In.....	69.....	65.....
3 Ft., 2 In.....	65.....	62.....
3 Ft., 4 In.....	62.....	59.....
3 Ft., 6 In.....	59.....	56.....

(Measure the distance between rows and between hills. Husk the number of hills shown on chart. Example: If corn is planted 3 Ft., 4 In. x 3 Ft., 6 In., husk 53 hills.)

## **HOW TO CORRECT EAR CORN YIELD FOR SHELLING PERCENTAGE**

To determine the number of bushels of shelled corn represented by a given number of bushels of ear corn, use the following method: Shell 20 pounds of ear corn and weigh the shelled corn. With this weight of shelled corn refer to the table below. The percentage figure opposite the weight of shelled sample is then multiplied by the number of bushels of ear corn. This will give the number of bushels to be subtracted from or added to the original ear corn bushelage. For example: 100 bushels of ear corn (at 70 lbs.) which gives 14 lbs. of shelled corn from a 20-pound ear sample indicates that 12.5% is to be deducted. On the basis of 100 bushels, this would mean that you actually had only 87.5 bushels of shelled corn.

Weight of Shelled Sample	% to Subtract	Weight of Shelled Sample	% to Add
14.0	12.5	16.0	0.0
14.1	11.9	16.1	0.6
14.2	11.2	16.2	1.2
14.3	10.5	16.3	1.9
14.4	10.0	16.4	2.5
14.5	9.4	16.5	3.1
14.6	8.7	16.6	3.7
14.7	8.1	16.7	4.4
14.8	7.5	16.8	5.0
14.9	6.9	16.9	5.6
15.0	6.2	17.0	6.3
15.1	5.6	17.1	6.9
15.2	5.0	17.2	7.5
15.3	4.4	17.3	8.1
15.4	3.7	17.4	8.7
15.5	3.1	17.5	9.4
15.6	2.5	17.6	10.0
15.7	1.9	17.7	10.5
15.8	1.2	17.8	11.2
15.9	0.6	17.9	11.9

## ***Grade Requirements for Yellow Corn, White Corn and Mixed Corn***

Grade No.	Minimum test weight per bushel	Maximum limits of—			
		Mois-ture	Cracked corn and foreign material	Damaged kernels	
				Total	Heat-damaged
		Pounds	Percent	Percent	Percent
1.....	54	14.0	2	3	0.1
2.....	53	15.5	3	5	.2
3.....	51	17.5	4	7	.5
4.....	48	20.0	5	10	1.0
5.....	44	23.0	7	15	3.0
Sample grade.....		Sample grade shall include corn of the class Yellow Corn, or White Corn, or Mixed Corn, which does not come within the requirements of any of the grades from No. 1 to No. 5, inclusive; or which contains stones and/or cinders; or which is musty, or sour, or heating, or hot; or which has any commercially objectionable foreign odor; or which is otherwise of distinctly low quality.			

From U. S. G. S. A. Form No. 90, Revised 1941.

### ***Correct Moisture Content for No. 2 Corn***

Take the moisture test of the shelled corn and multiply the shelled corn yield by the percent above or below 15.5%—SUBTRACT this result from the shelled corn yield if ABOVE 15.5% or ADD if BELOW 15.5%. The result is the shelled corn yield per acre corrected to 15.5% or NUMBER 2 CORN.

## **HOW TO CORRECT YIELDS FOR MOISTURE CONTENT**

At the same time you weigh your crop, shell a 2 lb. sample and seal in a fruit jar or glassine bag. Take it to your elevator to have moisture test made.

After determining the actual moisture in sample, refer to table below. If corn is below 15.5% moisture, add weight in the amount of the percentage indicated. If corn is above 15.5% moisture, subtract an amount equal to the percentage indicated opposite the moisture in corn. For example: 100 bushels of corn with 10.5% moisture is equal to 105.9 bushels of 15.5% moisture corn or 100 bushels plus 5.9%.

% Moisture in Corn	% to Add	% Moisture in Corn	% to Add
10.5	5.9	13.0	3.0
11.0	5.3	13.5	2.4
11.5	4.7	14.0	1.8
12.0	4.1	14.5	1.2
12.5	3.6	15.0	0.6

% Moisture in Corn	% to Subtract	% Moisture in Corn	% to Subtract
15.5	0.0	20.5	5.9
16.0	0.6	21.0	6.5
16.5	1.2	22.0	7.7
17.0	1.8	23.0	8.9
17.5	2.4	24.0	10.1
18.0	3.0	25.5	11.8
18.5	3.6	30.5	17.8
19.0	4.1	35.5	23.7
19.5	4.7	40.5	29.6
20.0	5.3	50.5	41.4

## **GENERAL INFORMATION**

### *Dry Measure*

2 pints . . . . .	1 qt.
8 quarts . . . . .	1 peck
4 pecks . . . . .	1 bushel

NOTE: A bushel contains 2150.42 cu. in.

### *Linear Measure*

12 inches . . . . .	1 foot
3 feet . . . . .	1 yard
5½ yards . . . . .	1 rod or pole
16½ feet . . . . .	1 rod or pole
40 rods . . . . .	1 furlong
8 furlongs . . . . .	1 statute mile
320 rods . . . . .	1 mile
5280 feet . . . . .	1 mile

### *U.S. Government Land Measure*

A township = 36 sections each 1 mile square.

A section = 640 acres.

A quarter section, half a mile square = 160 acres.

An eighth section, half a mile long North and South and  
a quarter mile wide = 80 acres.

### *Other Land Measures*

10 rods by 16 rods . . . . .	1 acre
5 rods by 32 rods . . . . .	1 acre
4 rods by 40 rods . . . . .	1 acre
5 yards by 968 yards . . . . .	1 acre
40 yards by 121 yards . . . . .	1 acre
20 yards by 242 yards . . . . .	1 acre
220 yards by 198 feet . . . . .	1 acre
110 feet by 396 feet . . . . .	1 acre
60 feet by 726 feet . . . . .	1 acre
300 feet by 145.2 feet . . . . .	1 acre
4840 square yards . . . . .	1 acre

## *Square Measure*

144 sq. in.....	1 square foot
9 sq. feet.....	1 square yard
30 $\frac{1}{4}$ sq. yds.....	1 square rod
272 $\frac{1}{4}$ sq. ft.....	1 square rod
160 sq. rods.....	1 acre
640 acres.....	1 square mile

## **HOW TO COMPUTE CAPACITY OF CRIBS**

### *Square or Rectangular Cribs*

Multiply the length by the width by the depth of grain (all in feet). Multiply this sum by 2 and divide by 5. The result is the number of bushels ear corn at 70 lbs. per bu. Correct for shelling percentage and moisture as directed on preceding pages.

### *Round Cribs*

Multiply the diameter (distance across center) by the diameter. Multiply this sum by the depth (all in feet). Multiply the sum by .315. The result is bushels at 70 lbs. per bu. Correct for moisture and shelling percentages.

### *Piles of Corn*

When heaped in form of a cone: Square the depth and square the inches of slant height (i.e., multiply each by itself). Subtract the lesser of these amounts from the greater. Multiply the difference obtained by the depth in inches. Multiply this product by .0024. The result is the bushels shelled corn at 70 lbs. bu. basis. Correct for moisture and shelling percentage. When corn is heaped against a straight wall divide this result by two.

*The above formulas give bushels of 70 lb. basis ear corn. For shelled corn capacities in bushels double number bushels ear corn and correct for moisture content.*

## **POPULATION PER ACRE**

*Row Spacing 3'4"*

Hill drop	2 per hill	3 per hill	4 per hill
19" spacing	16,504	24,756	33,008
25" spacing	12,544	18,816	25,088
29" spacing	10,814	16,221	21,628
33" spacing	9,502	14,253	19,004
Checked Corn			
3'4" x 3'4"	7,840	11,760	15,680
Drilled corn			
3'4" x	8" 19,600	14" 11,200	18" 8,710

**AVERAGE ACRES PER BUSHEL OF SEED****HILL DROP 2 KERNELS PER HILL***Row Spacing 3'4"*

	MF	MLF	LF	MT	MLT	MR	MLR
19" spacing	4.59	3.95	3.61	4.24	3.83	4.08	3.65
25" spacing	6.04	5.20	4.76	5.58	5.04	5.37	4.80
29" spacing	7.01	6.04	5.52	6.47	5.85	6.23	5.57
33" spacing	7.98	6.87	6.28	7.37	6.66	7.09	6.34

At 3 per hill reduce acreage by  $\frac{1}{4}$ At 4 per hill reduce acreage by  $\frac{1}{2}$ **AVERAGE ACRES PER BUSHEL OF SEED***Checked at 3'4" x 3'4"*

	MF	MLF	LF	MT	MLT	MR	MLR
3 kernels per hill	6.30	5.43	4.97	5.83	5.27	5.61	5.02
4 kernels per hill	4.73	4.08	3.73	4.37	3.95	4.21	3.76



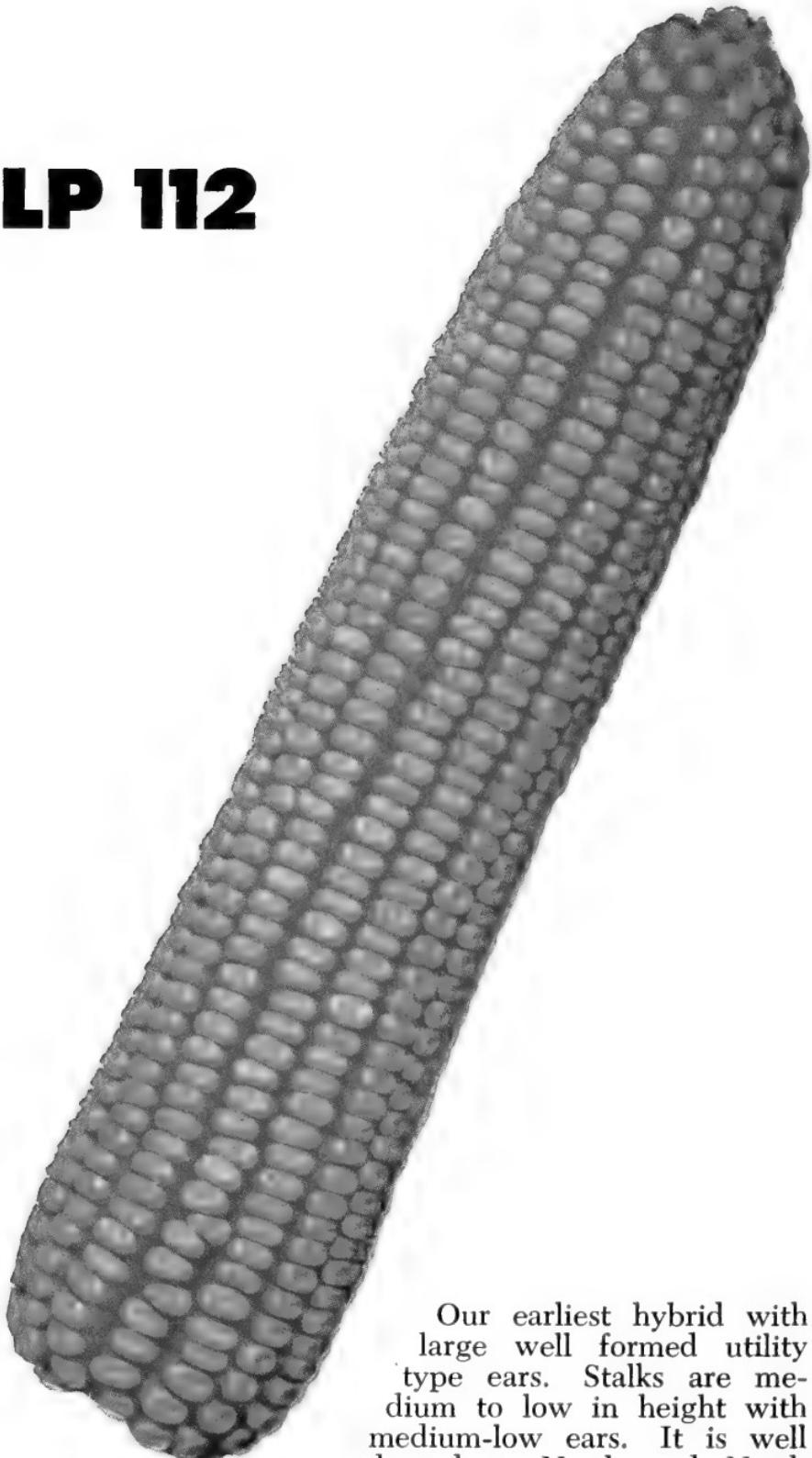






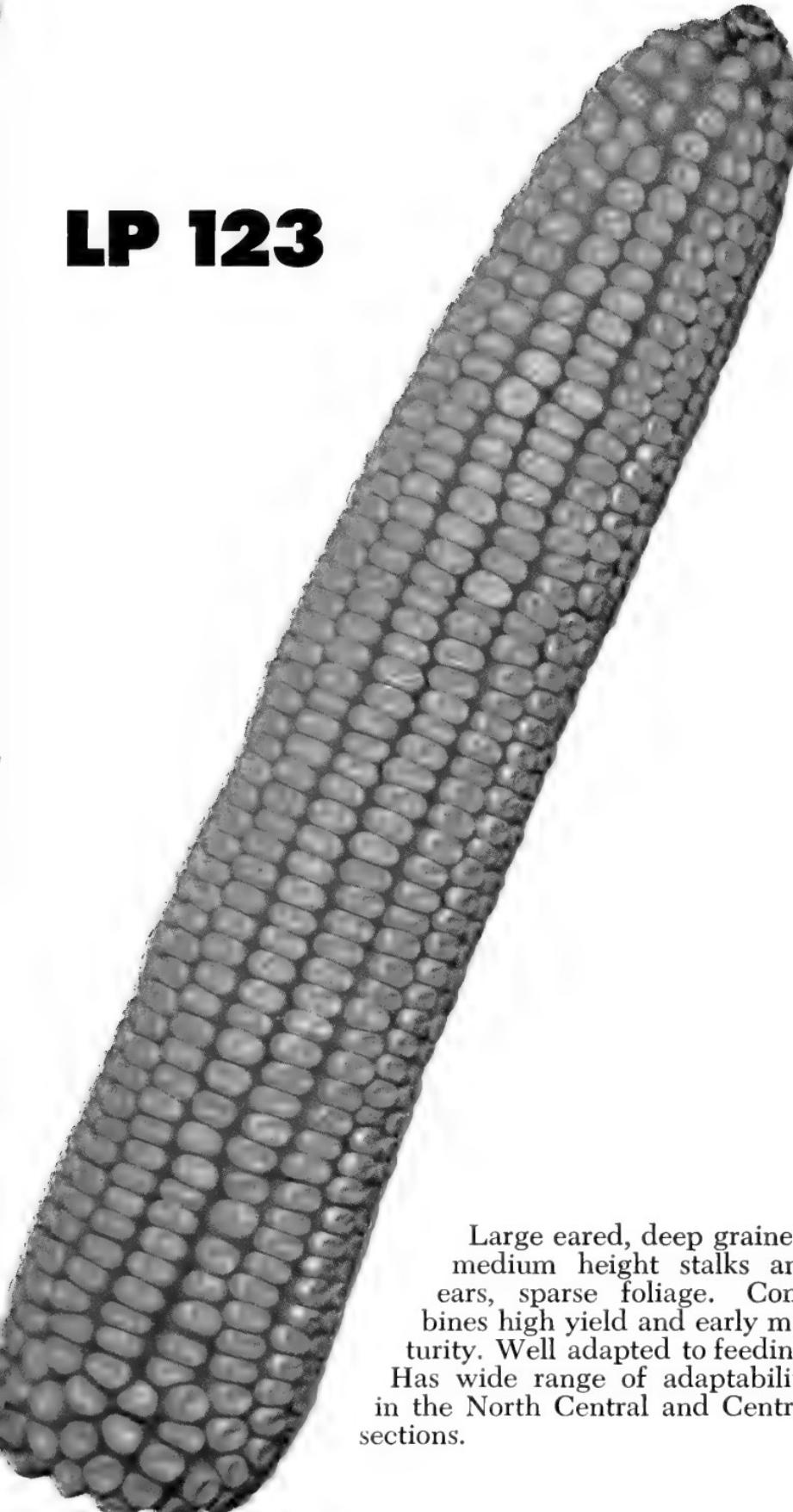
Lester Pfister (above) is the dirt farmer whose meticulous perseverance developed the famous Pfister 187 Inbred from which he later produced "The 187 Hybrids" shown and described on the following pages. From the wide range of characteristics in these hybrids you can pick one or more that will produce well on your farm and prove to be a good investment for you.

# **LP 112**



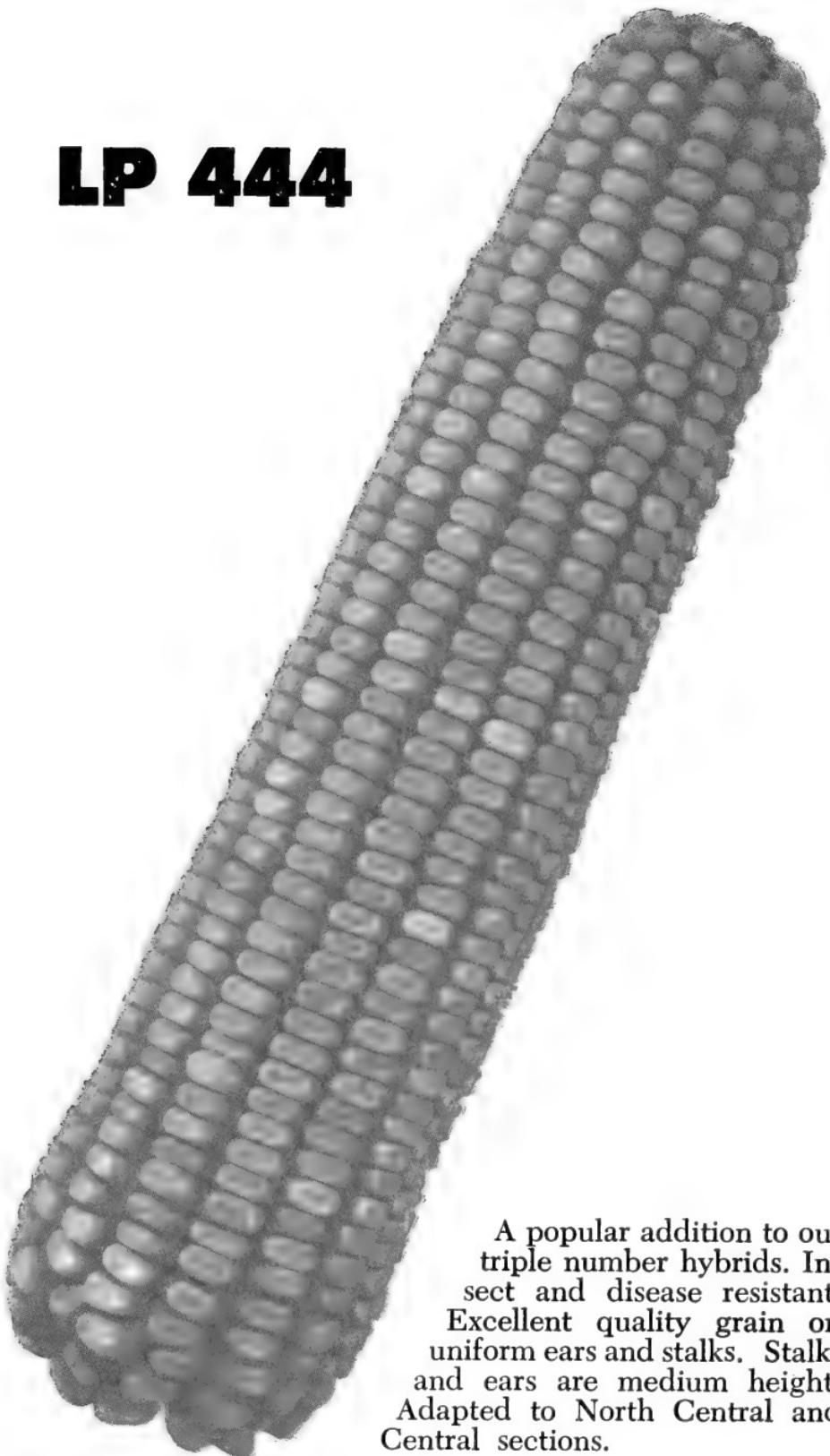
Our earliest hybrid with large well formed utility type ears. Stalks are medium to low in height with medium-low ears. It is well adapted to North and North Central sections of the Corn Belt.

# **LP 123**



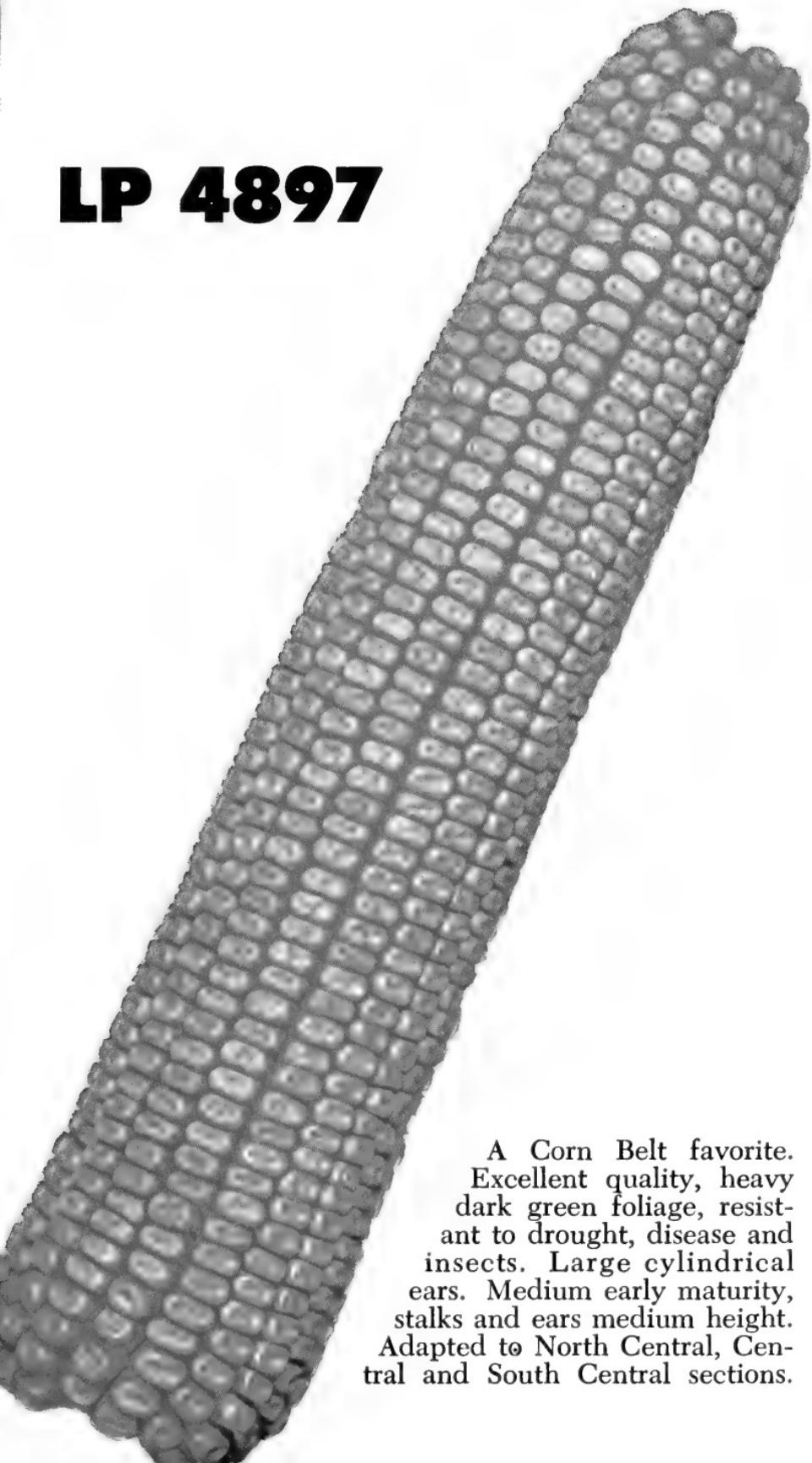
Large eared, deep grained, medium height stalks and ears, sparse foliage. Combines high yield and early maturity. Well adapted to feeding. Has wide range of adaptability in the North Central and Central sections.

# **LP 444**



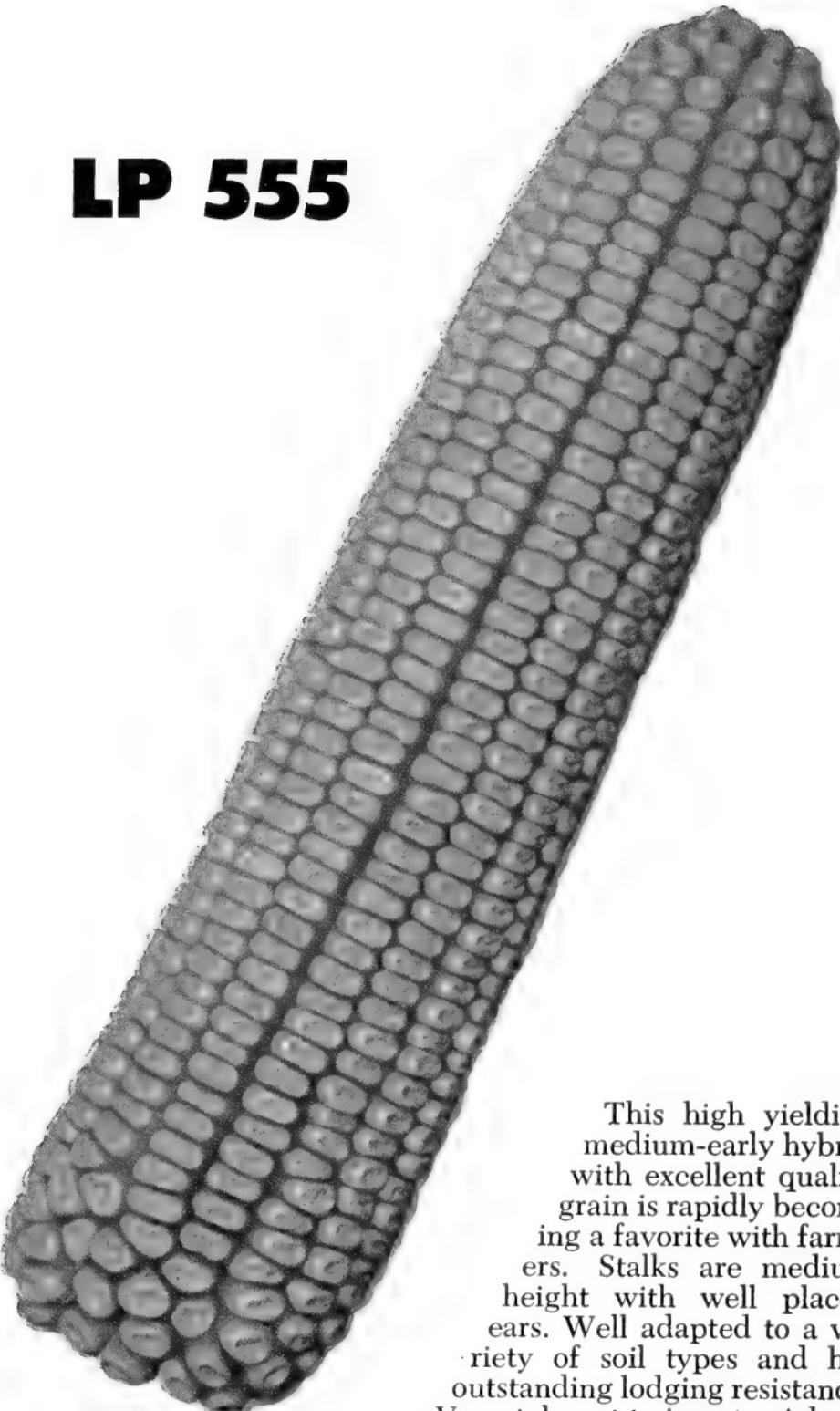
A popular addition to our triple number hybrids. Insect and disease resistant. Excellent quality grain on uniform ears and stalks. Stalks and ears are medium height. Adapted to North Central and Central sections.

# **LP 4897**



A Corn Belt favorite. Excellent quality, heavy dark green foliage, resistant to drought, disease and insects. Large cylindrical ears. Medium early maturity, stalks and ears medium height. Adapted to North Central, Central and South Central sections.

# **LP 555**



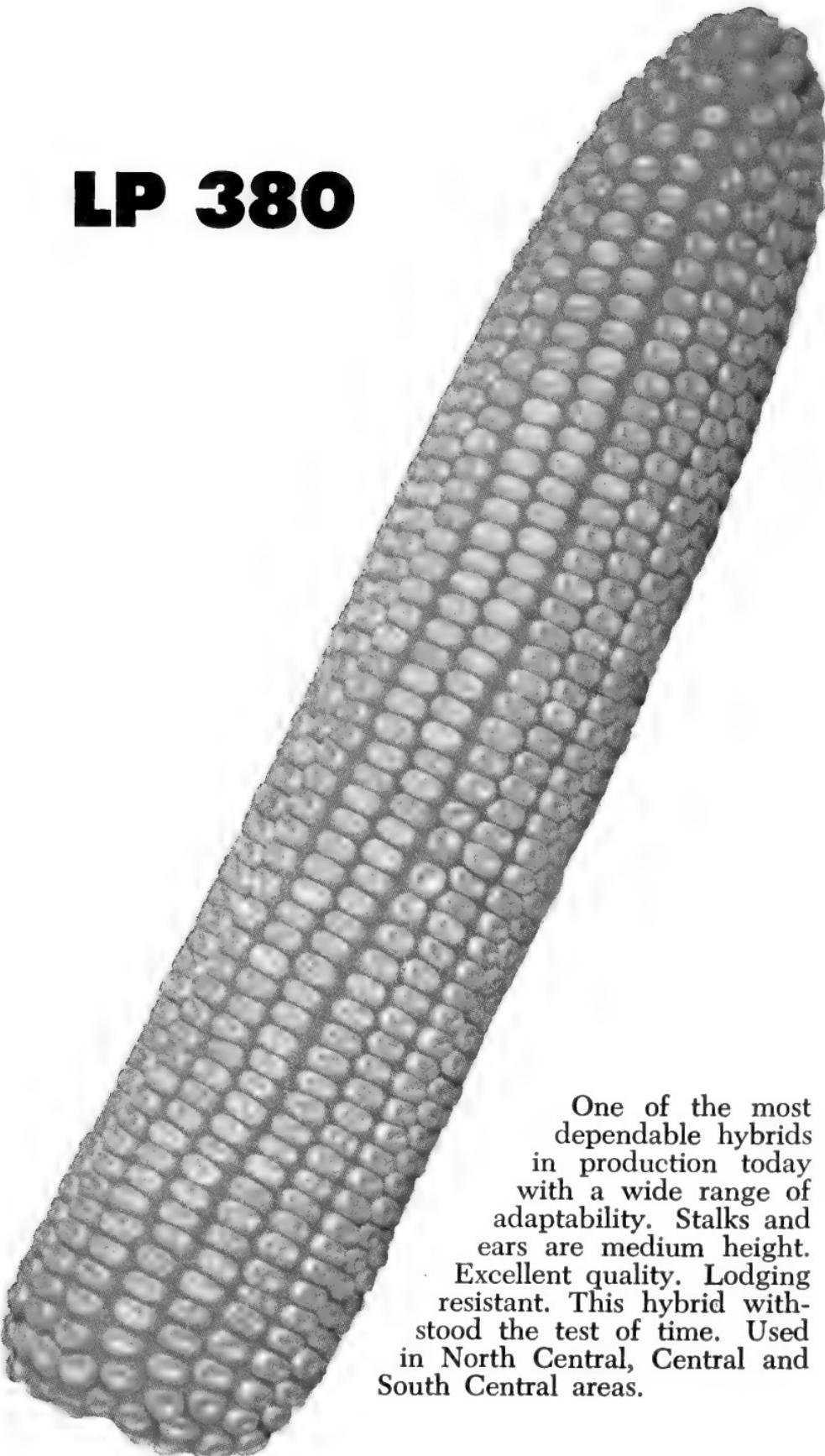
This high yielding medium-early hybrid with excellent quality grain is rapidly becoming a favorite with farmers. Stalks are medium height with well placed ears. Well adapted to a variety of soil types and has outstanding lodging resistance. Very tolerant to insects. Adapted to North Central, Central and South Central sections.

# **LP 360-1**



An improved 360 with the high yielding ability, shelling percentage and quality of old 360 with lodging resistance that makes it a favorite in the North Central and Central sections.

# **LP 380**



One of the most dependable hybrids in production today with a wide range of adaptability. Stalks and ears are medium height. Excellent quality. Lodging resistant. This hybrid withstood the test of time. Used in North Central, Central and South Central areas.

*Another*

**LESTER  
PFISTER**

*First!*





# PURE

# Single-Cross

# HYBRID

Now available to farmers who want the best in seed corn

Here is what you get:

1. 10 to 20 or more bushels increase in yield
2. Unequaled Standability
3. Clean and easy picking at all times
4. High tolerance to corn borers and other insects
5. Drought and wilt resistant
6. Uniformity and high quality found only in a Pure Single Cross

*Lester Pfister*

ORDERS FOR 1958 PLANTING will be accepted in the order received and in proportion to double cross seed purchased.

"**You cannot buy this hybrid anywhere else at any price"**

**SEE** *Your*

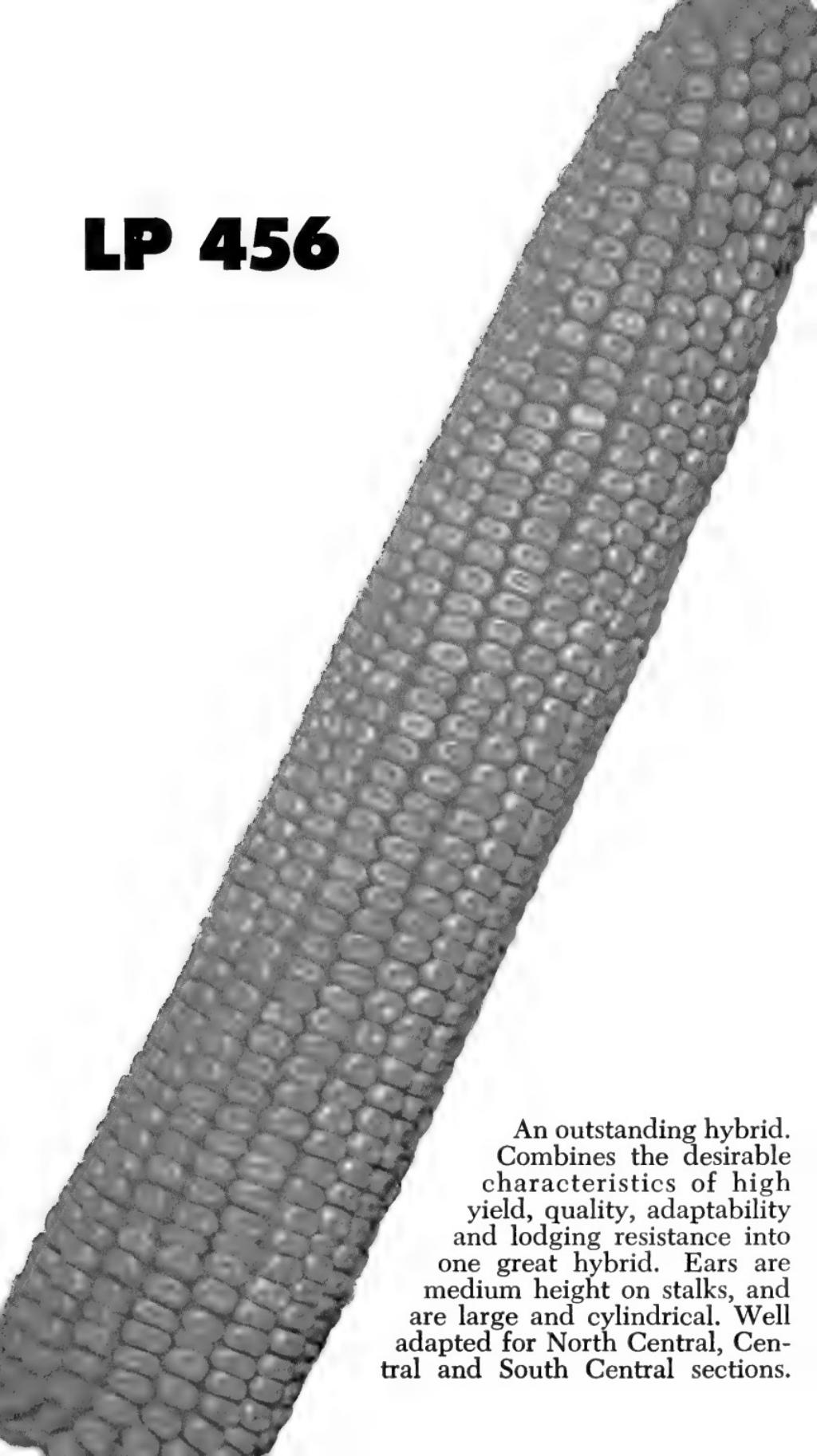
**187 HYBRID DEALER**

**ABOUT**

**SINGLE-CROSS**

**HYBRID SEED**

# **LP 456**



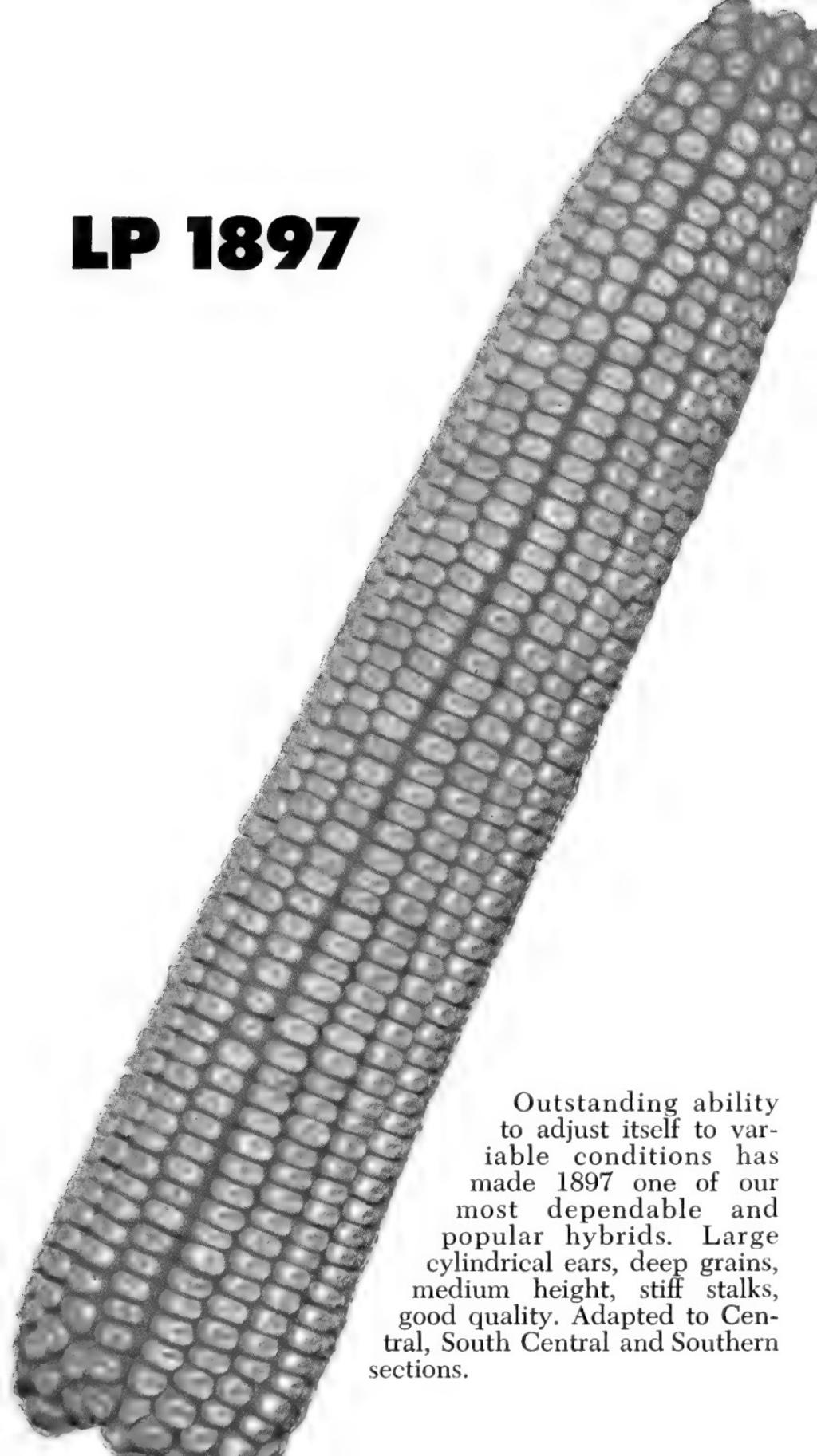
An outstanding hybrid.  
Combines the desirable  
characteristics of high  
yield, quality, adaptability  
and lodging resistance into  
one great hybrid. Ears are  
medium height on stalks, and  
are large and cylindrical. Well  
adapted for North Central, Cen-  
tral and South Central sections.

# **LP 5897**



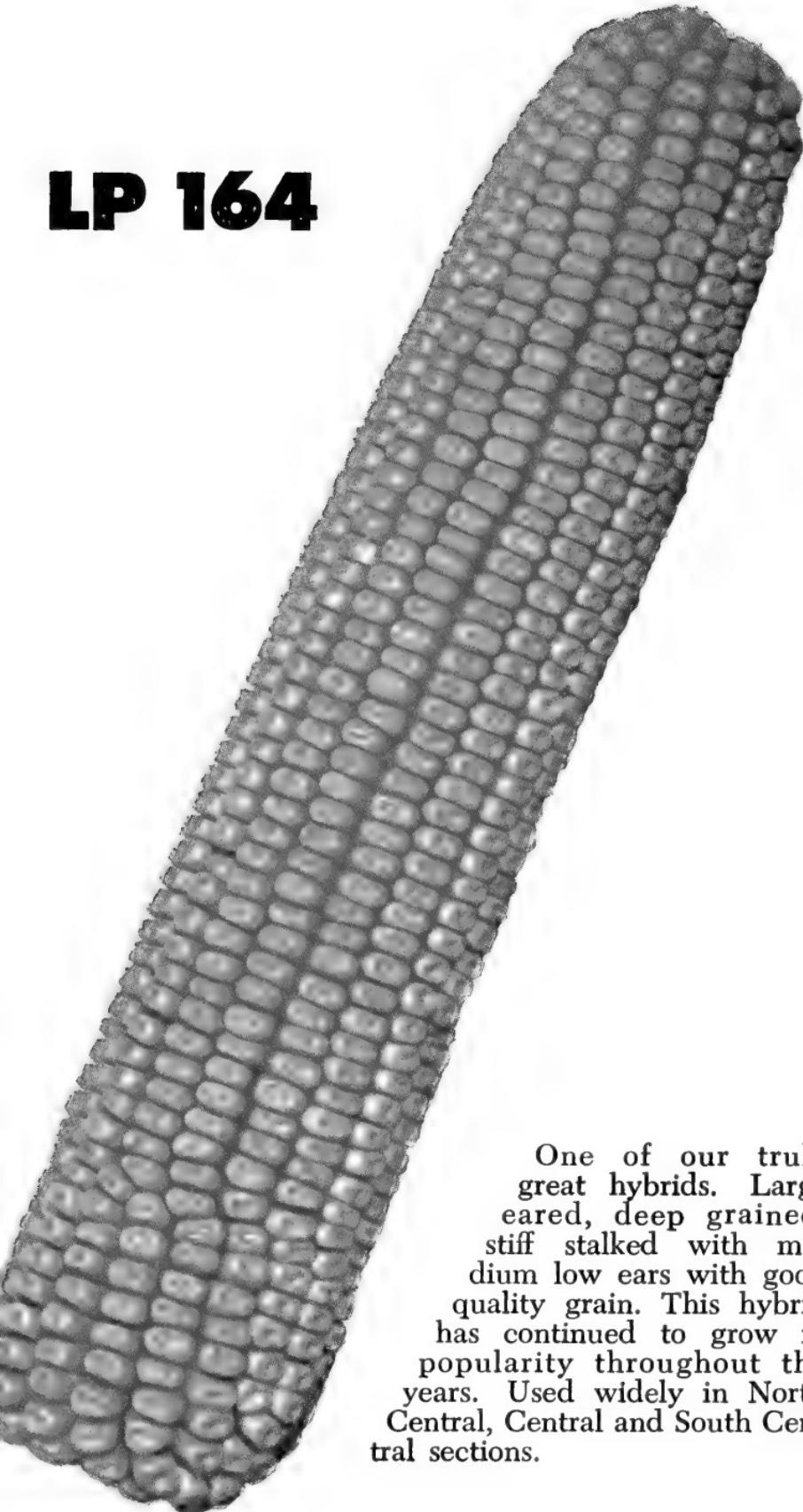
A very uniform, medium early hybrid. Adapted to a wide range of soil and seasonal conditions. Grain excellent quality and plants are dark green and of medium height. Used in North Central, Central and South Central sections.

# **LP 1897**



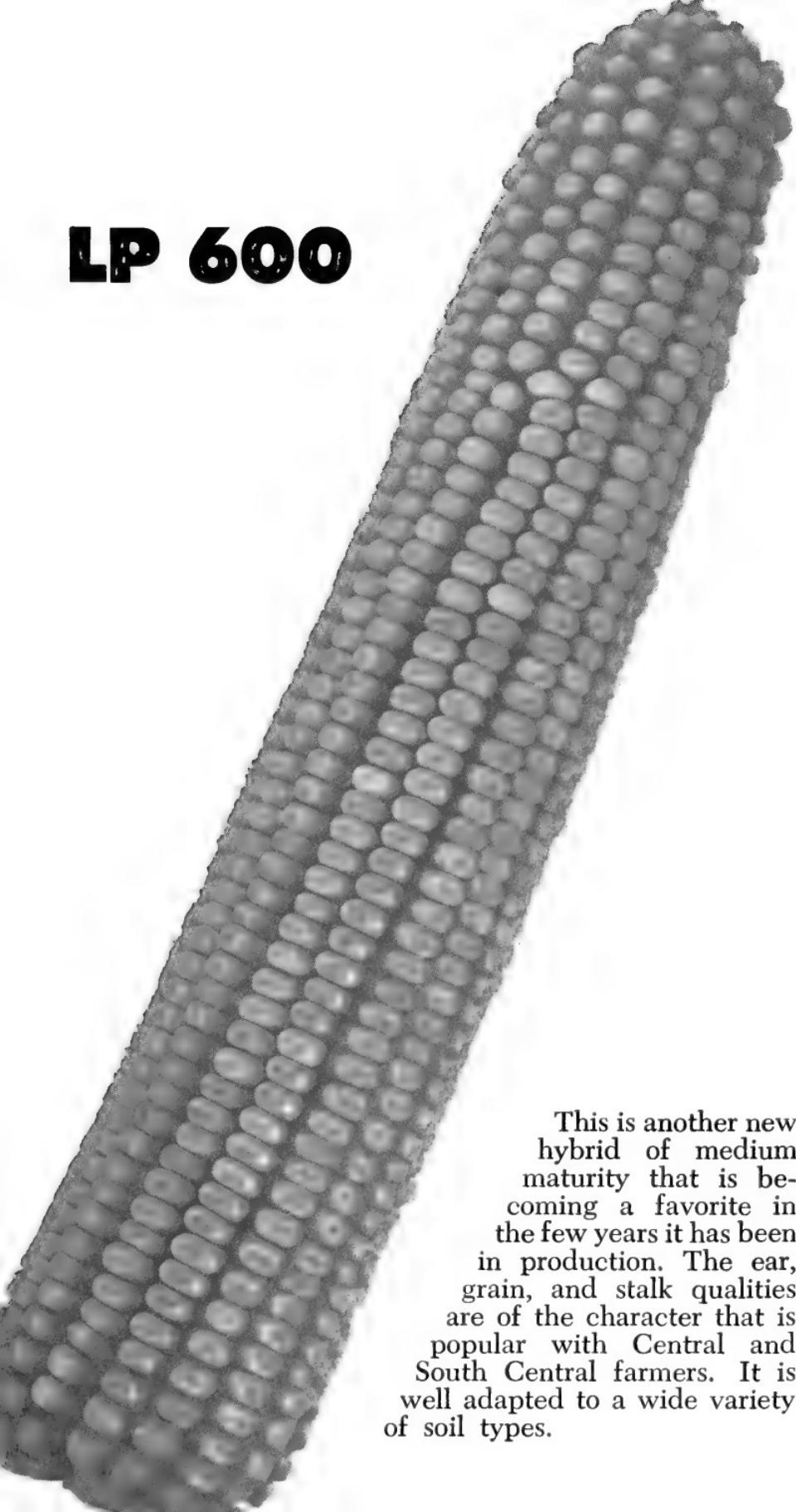
Outstanding ability  
to adjust itself to var-  
iable conditions has  
made 1897 one of our  
most dependable and  
popular hybrids. Large  
cylindrical ears, deep grains,  
medium height, stiff stalks,  
good quality. Adapted to Cen-  
tral, South Central and Southern  
sections.

# **LP 164**



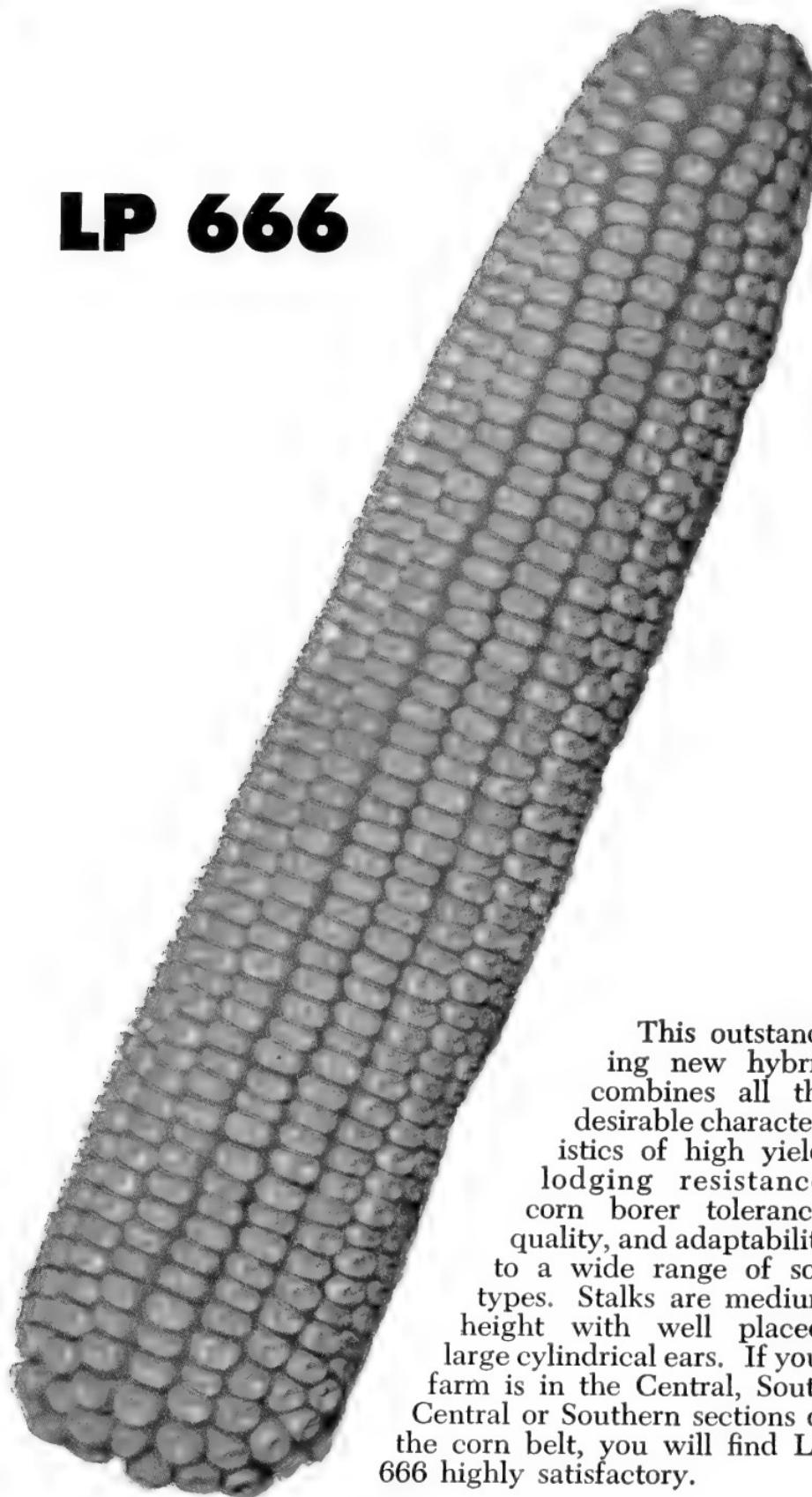
One of our truly great hybrids. Large eared, deep grained, stiff stalked with medium low ears with good quality grain. This hybrid has continued to grow in popularity throughout the years. Used widely in North Central, Central and South Central sections.

# **LP 600**



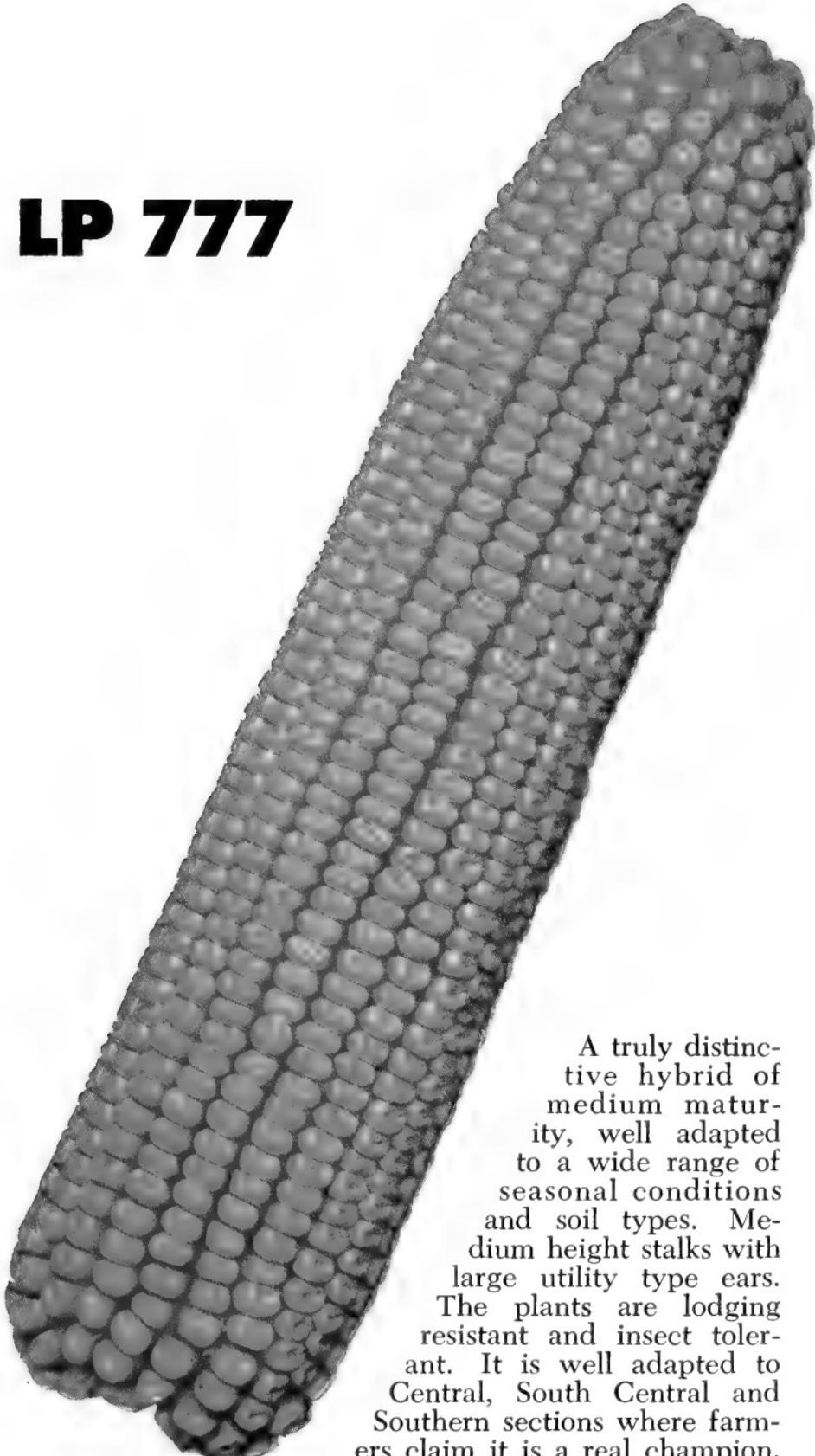
This is another new hybrid of medium maturity that is becoming a favorite in the few years it has been in production. The ear, grain, and stalk qualities are of the character that is popular with Central and South Central farmers. It is well adapted to a wide variety of soil types.

# **LP 666**



This outstanding new hybrid combines all the desirable characteristics of high yield, lodging resistance, corn borer tolerance, quality, and adaptability to a wide range of soil types. Stalks are medium height with well placed, large cylindrical ears. If your farm is in the Central, South Central or Southern sections of the corn belt, you will find LP 666 highly satisfactory.

# **LP 777**



A truly distinctive hybrid of medium maturity, well adapted to a wide range of seasonal conditions and soil types. Medium height stalks with large utility type ears. The plants are lodging resistant and insect tolerant. It is well adapted to Central, South Central and Southern sections where farmers claim it is a real champion.



The PROOF of the Pudding—heavy, well-filled ears uniformly spaced on sturdy stalks standing in line for the picker. This is a field of 187 Hybrids.







# 1957

JANUARY							FEBRUARY							MARCH							APRIL							
S	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S	
..	1	2	3	4	5		..	..	..	1	2			..	..	..	1	2			..	1	2	3	4	5	6	
6	7	8	9	10	11	12	3	4	5	6	7	8	9	3	4	5	6	7	8	9	7	8	9	10	11	12	13	
13	14	15	16	17	18	19	10	11	12	13	14	15	16	10	11	12	13	14	15	16	14	15	16	17	18	19	20	
20	21	22	23	24	25	26	17	18	19	20	21	22	23	17	18	19	20	21	22	23	21	22	23	24	25	26	27	
27	28	29	30	31	..	..	24	25	26	27	28	..	..	24	25	26	27	28	29	30	28	29	30	..	..	..	..	
..	..	..	..	..	..	..	..	..	..	..	..	..	..	31	..	..	..	..	..	..	..	..	..	..	..	..	..	..
MAY							JUNE							JULY							AUGUST							
S	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S	
..	1	2	3	4	5	6	..	..	..	..	..	1	..	..	1	2	3	4	5	6	..	..	..	1	2	3	..	..
5	6	7	8	9	10	11	2	3	4	5	6	7	8	7	8	9	10	11	12	13	4	5	6	7	8	9	10	
12	13	14	15	16	17	18	9	10	11	12	13	14	15	14	15	16	17	18	19	20	11	12	13	14	15	16	17	
19	20	21	22	23	24	25	16	17	18	19	20	21	22	16	17	18	19	20	21	22	18	19	20	21	22	23	24	
26	27	28	29	30	31	..	23	24	25	26	27	28	..	23	24	25	26	27	28	29	25	26	27	28	29	30	31	
..	..	..	..	..	..	..	30	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	
SEPTEMBER							OCTOBER							NOVEMBER							DECEMBER							
S	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S	
1	2	3	4	5	6	7	..	..	1	2	3	4	5	..	..	..	1	2	3	..	1	2	3	4	5	6	7	
8	9	10	11	12	13	14	5	6	7	8	9	10	11	3	4	5	6	7	8	9	8	9	10	11	12	13	14	
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22	23	24	25	26	27	28	20	21	22	23	24	25	26	20	21	22	23	24	25	26	22	23	24	25	26	27	28	
29	30	..	..	..	..	..	27	28	29	30	31	..	..	24	25	26	27	28	29	30	29	30	31	..	..	..	..	

# 1958

JANUARY							FEBRUARY							MARCH							APRIL							
S	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S	
..	1	2	3	4	5	6	..	..	..	..	..	1	..	..	..	..	1	2	3	..	..	1	2	3	4	5	6	
5	6	7	8	9	10	11	2	3	4	5	6	7	8	2	3	4	5	6	7	8	6	7	8	9	10	11	12	
12	13	14	15	16	17	18	9	10	11	12	13	14	15	9	10	11	12	13	14	15	13	14	15	16	17	18	19	
19	20	21	22	23	24	25	16	17	18	19	20	21	22	16	17	18	19	20	21	22	20	21	22	23	24	25	26	
26	27	28	29	30	31	..	23	24	25	26	27	28	..	23	24	25	26	27	28	29	27	28	29	30	..	..	..	
..	..	..	..	..	..	..	30	..	..	..	..	..	..	30	..	..	..	..	..	..	..	..	..	..	..	..	..	..
MAY							JUNE							JULY							AUGUST							
S	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S	
..	1	2	3	4	5	6	1	2	3	4	5	6	7	..	1	2	3	4	5	..	..	1	2	3	4	5	6	
4	5	6	7	8	9	10	8	9	10	11	12	13	14	6	7	8	9	10	11	12	3	4	5	6	7	8	9	
11	12	13	14	15	16	17	15	16	17	18	19	20	21	13	14	15	16	17	18	19	10	11	12	13	14	15	16	
18	19	20	21	22	23	24	22	23	24	25	26	27	28	20	21	22	23	24	25	26	17	18	19	20	21	22	23	
25	26	27	28	29	30	31	29	30	..	..	..	..	..	27	28	29	30	31	..	..	24	25	26	27	28	29	30	
..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	31	..	..	..	..	..	..	..
SEPTEMBER							OCTOBER							NOVEMBER							DECEMBER							
S	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S	
..	1	2	3	4	5	6	..	..	1	2	3	4	5	..	..	..	1	2	3	..	..	1	2	3	4	5	6	
7	8	9	10	11	12	13	5	6	7	8	9	10	11	2	3	4	5	6	7	8	7	8	9	10	11	12	13	
14	15	16	17	18	19	20	12	13	14	15	16	17	18	9	10	11	12	13	14	15	14	15	16	17	18	19	20	
21	22	23	24	25	26	27	19	20	21	22	23	24	25	16	17	18	19	20	21	22	21	22	23	24	25	26	27	
28	29	30	..	..	..	..	26	27	28	29	30	31	..	23	24	25	26	27	28	29	28	29	30	31	..	..	..	